



**MASSACHUSETTS**  
**DEPARTMENT of**  
**EDUCATION**

## **Vocational Technical Education Framework**

### **Health Services Cluster**

#### ***Dental Assisting***

**August 2007**

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**Massachusetts Department of Education**  
**Career/Vocational Technical Education Unit**  
**address** 350 Main Street, Malden, MA 02148  
**telephone** 781-338-3910  
**internet** [www.doe.mass.edu/cte/](http://www.doe.mass.edu/cte/)  
**email** [careervoctech@doe.mass.edu](mailto:careervoctech@doe.mass.edu)

## **Strand 1: Safety and Health Knowledge and Skills**

### **1.A Define health and safety regulations.**

- 1.A.01a Identify and apply OSHA and other health and safety regulations that apply to specific tasks and jobs in the occupational area.
- 1.A.02a Identify and apply EPA and other environmental protection regulations that apply to specific tasks and jobs in the occupational area.
- 1.A.03a Identify and apply Right-To-Know (Hazard Communication Policy) and other communicative regulations that apply to specific tasks and jobs in the occupational area.
- 1.A.04a Explain procedures for documenting and reporting hazards to appropriate authorities.
- 1.A.05a List penalties for non-compliance with appropriate health and safety regulations.
- 1.A.06a Identify contact information for appropriate health and safety agencies and resources.

### **1.B Demonstrate health and safety practices.**

- 1.B.01a Identify, describe and demonstrate the effective use of Material Safety Data Sheets (MSDS).
- 1.B.02a Read chemical, product, and equipment labels to determine appropriate health and safety considerations.
- 1.B.03a Identify, describe and demonstrate personal, shop and job site safety practices and procedures.
- 1.B.04a Demonstrate safe dress and use of relevant safety gear and personal protective equipment (PPE), including wrist rests, adjustable workspaces and equipment, gloves, boots, earplugs, eye protection, and breathing apparatus.
- 1.B.05a Illustrate appropriate safe body mechanics, including proper lifting techniques and ergonomics.
- 1.B.06a Locate emergency equipment in your lab, shop, and classroom, including (where appropriate) eyewash stations, shower facilities, sinks, fire extinguishers, fire blankets, telephone, master power switches, and emergency exits.
- 1.B.07a Demonstrate the safe use, storage, and maintenance of every piece of equipment in the lab, shop, and classroom.
- 1.B.08a Describe safety practices and procedures to be followed when working with and around electricity.
- 1.B.09a Properly handle, store, dispose of, and recycle hazardous, flammable, and combustible materials.
- 1.B.10a Demonstrate proper workspace cleaning procedures.
- 1.B.11c Demonstrate medical asepsis hand wash technique.
- 1.B.12c Utilize correct procedure for client identification.
- 1.B.13c Identify methods of transmission of microorganisms.
- 1.B.14c Demonstrate safe transfer techniques.
- 1.B.15c Observe and report signs of infection and utilize isolation techniques as needed.
- 1.B.16c Demonstrate safe practices while administering patient care activities.
- 1.B.17c Demonstrate safe barrier protection.
- 1.B.18c Define of emergency codes used in office / medical facility.

- 1.B.19c Demonstrate needle safety and sharps disposal.
- 1.B.20c Explain proper handling and disposal of biohazardous materials.
- 1.B.21c Recognize signage in the healthcare environment.
- 1.B.22c Remove and dispose of contaminated gloves properly.
- 1.B.23 Explain the actions, uses, advantages and disadvantages of anti-microbial agents and sterilization procedures.
- 1.B.24 Demonstrate all forms of sterilization and/or disinfection procedures.
- 1.B.25 Demonstrate the proper cleaning and packing of instruments for all sterilization.
- 1.B.26 Demonstrate proper procedures in the operatory/treatment rooms using recommended CDC techniques and guidelines.
- 1.B.27 Demonstrate proper maintenance preparation using recommended CDC techniques / guidelines.
- 1.B.28 Maintain records according to the OSHA blood-borne pathogens and hazard communication standards.
- 1.B.29 Student will successfully complete the Dental Assistant National Board (DANB) Infection Control Examination (ICE) and Career Safe Examination.

**Performance Example:**

1. Student will demonstrate proper infection control procedures before and after treatment, and proper disposal of hazardous waste.

**1.C Demonstrate responses to situations that threaten health and safety.**

- 1.C.01a Illustrate First Aid procedures for potential injuries and other health concerns in the occupational area.
- 1.C.02a Describe the importance of emergency preparedness and an emergency action plan.
- 1.C.03a Illustrate procedures used to handle emergency situations and accidents, including identification, reporting, response, evacuation plans, and follow-up procedures.
- 1.C.04a Identify practices used to avoid accidents.
- 1.C.05a Identify and describe fire protection, precautions and response procedures.
- 1.C.06a Discuss the role of the individual and the company/organization in ensuring workplace safety.
- 1.C.07a Discuss ways to identify and prevent workplace/school violence.

**1.D Demonstrate procedures relating to radiation safety.**

- 1.D.01 Explain radiation measures to produce diagnostic radiographic surveys on manikins prior to exposing radiographs on patients in accordance with OSHA and state Dental Practice Act.
- 1.D.02 Shield the patient for radiographic procedures.
- 1.D.03 Expose and evaluate radiographs.
- 1.D.04 Select appropriate radiographic technique.
- 1.D.05 Describe the use and purpose of various intraoral and extra oral radiographs.
- 1.D.06 Select appropriate radiographic film to examine, view, or survey conditions, teeth, or landmarks.
- 1.D.07 Select appropriate equipment for radiographic techniques.
- 1.D.08 Define intraoral radiography.

- 1.D.09 Define extra oral radiography.
- 1.D.10 Evaluate radiographs for diagnostic value.
- 1.D.11 Process radiographs.
- 1.D.12 Evaluate films, both right and left, for proper marking and patient identification.
- 1.D.13 Mount and label radiographs.
- 1.D.14 Apply the principles of radiation protection and health physics and hazards in the operation of radiographic equipment.
- 1.D.15 Explain principles of radiation physics, including primary radiation, scattered or secondary radiation, latent period, and ALARA principle.
- 1.D.16 Practice safety measures to provide protection from x-radiation.
- 1.D.17 Manage storage of radiographic supplies and materials.
- 1.D.18 Implement quality assurance procedures.
- 1.D.19 Demonstrate the ALARA technique while exposing radiographs.
- 1.D.20 Explain digital radiology.
- 1.D.21 Complete the State or DANB Radiation Health and Safety Examination.

**Performance Example:**

1. Successfully expose, process, and mount a Full Mouth X-ray (FMX).

## **Strand 2: Technical Knowledge and Skills**

### **2.A Summarize the fundamentals of the healthcare industry.**

- 2.A.01c Identify the types of health care facilities.
- 2.A.02c Identify the organizational structure of the health care team.
- 2.A.03c Demonstrate professional behavior in clinical practice.
- 2.A.04c Demonstrate telephone techniques appropriate to a health care setting.
- 2.A.05c Summarize the residents'/patients' Bill of Rights and HIPAA.
- 2.A.06c Describe the role of the mandated reporter.
- 2.A.07c Demonstrate introductory resident/client identification.
- 2.A.08c Demonstrate verbal communication.
- 2.A.09c Demonstrate non-verbal communication.
- 2.A.10c Identify barriers to open communication.
- 2.A.11c Demonstrate observation skills.
- 2.A.12c Give a verbal client report.
- 2.A.13c Complete a written client report.
- 2.A.14c Demonstrate organization, maintain or write technical information in a patient file or chart and demonstrate how to process the correction of an error.
- 2.A.15c Complete incident / variance report.
- 2.A.16c Employ the use of medical terms and abbreviations.
- 2.A.17c Identify professional healthcare workers' organizations and credentialing requirements.

#### **Performance Example:**

1. Student will successfully complete a written essay demonstrating their knowledge of Health Care, including but not limited to the identification of the roles and responsibility of the Healthcare Worker.

### **2.B Demonstrate procedures used when responding to client needs.**

- 2.B.01c Explain importance of responding to client needs in a timely, compassionate and professional manner.
- 2.B.02c Demonstrate basic assessment techniques.
- 2.B.03c Demonstrate respect for diverse orientations.
- 2.B.04c List strategies used to maintain client dignity at all times.
- 2.B.05c Demonstrate procedures used to measure and record vital signs.
- 2.B.06c Demonstrate procedures used to measure and record height and weight.
- 2.B.07c Obtain CPR (Cardiopulmonary resuscitation) certification.
- 2.B.08c Obtain First Aid certification
- 2.B.09c Explain procedures used to position and drape clients.
- 2.B.10c Identify procedures used with pediatric patients and patients with special needs.

#### **Performance Example:**

1. Student will demonstrate an ability to respond in a timely fashion to individual client needs.

### **2.C Participate in an approved externship.**

- 2.C.01c Successfully complete a supervised student practicum.

**2.D Perform the fundamentals of healthcare office management.**

- 2.D.01c Demonstrate basic keyboarding skills.
- 2.D.02c Manage patient files.
- 2.D.03c Demonstrate the effective use of numerical, subject, and color-coded filing systems.
- 2.D.04c Maintain patient contact information records.

**Performance Example:**

1. Keyboard the alphabet using the touch method.
2. Demonstrate proficiency in the following areas: keyboarding, basic computer skills, filing, communication, data entry and registration.

**2.E Perform basic chair-side dental procedures.**

- 2.E.01 Describe strategies used to establish a rapport with the client.
- 2.E.02 Obtain a medical and dental history.
- 2.E.03 Demonstrate the proper client/assistant/operator positions in a given treatment.
- 2.E.04 Prepare the operatory for the client treatment.
- 2.E.05 Prepare and set-up any anesthetic according to doctor's orders.
- 2.E.06 Apply a topical anesthetic to the injection site.
- 2.E.07 Place and remove a rubber dam.
- 2.E.08 Maintain a clear operating field (e.g., oral evacuation, moisture control, tissue retraction, and three-way syringe).
- 2.E.09 Perform an instrument transfer.
- 2.E.10 Explain procedures used when dismissing the client after treatment.
- 2.E.11 List duties required when assisting with postoperative care and instruction for all dental procedures.
- 2.E.12 Recognize medical /dental emergencies and the proper protocols.
- 2.E.13 Obtain impressions for study casts, athletic guards, and custom trays and ortho retainers.
- 2.E.14 Assist in clinical oral examination and dental charting.
- 2.E.15 Recognize and report signs of abuse.
- 2.E.16 Complete a dental externship.

**Performance Example:**

1. Student will successfully perform given dental procedures with dentist and client and will be evaluated by dentist and/or instructor.

**2.F Apply dental materials.**

- 2.F.01 Explain the properties of dental materials.
- 2.F.02 Demonstrate the preparation and application of impression materials.
- 2.F.03 Demonstrate the preparation and application of restorative materials.
- 2.F.04 Demonstrate the preparation and application of dental cements.
- 2.F.05 Demonstrate the preparation and application of gypsum products.
- 2.F.06 Demonstrate the preparation and application of dental resins.
- 2.F.07 Demonstrate the preparation and application of abrasives and polishing agents.
- 2.F.08 Demonstrate the preparation and application of dental metals.
- 2.F.09 Demonstrate the preparation and application of sedative / post-operative procedures.
- 2.F.10 Demonstrate the preparation and application of dental waxes.
- 2.F.11 Demonstrate the preparation and application of whitening materials.

**Performance Example:**

1. Student will successfully perform an application of a given dental material.

**2.G Assist with restorative procedures.**

- 2.G.01 Prepare for armamentariums and manipulation of dental materials for restorative procedures.
- 2.G.02 Assist with amalgam procedures.
- 2.G.03 Assist with composite procedures.
- 2.G.04 Fabricate temporary / provisional crowns.
- 2.G.05 Demonstrate and prepare given matrices.
- 2.G.06 Assist with temporary fillings.
- 2.G.07 Explain laser safety technology.

**Performance Example:**

1. Student will successfully perform given restorative procedures with dentist and client and will be evaluated by dentist and/or instructor.

**2.H Assist with prosthodontic procedures.**

- 2.H.01 Prepare for armamentarium and manipulation of dental materials for prosthodontic procedures.
- 2.H.02 Assist with fixed prosthodontics procedures.
- 2.H.03 Assist with removable prosthodontics procedures.
- 2.H.04 Assist with the adjustment of fixed and removable prosthetics.
- 2.H.05 Demonstrate fabrication of provisional prosthetics.
- 2.H.06 Fabricate and obtain all forms of bite registrations.

**Performance Example:**

1. Student will successfully perform given prosthodontic procedures with dentist and client and will be evaluated by dentist and/or instructor.

**2.I Assist with preventive measures.**

- 2.I.01 Prepare armamentarium and manipulation of dental materials for preventive procedures.
- 2.I.02 Assist with preventive procedures.
- 2.I.03 Demonstrate the proper instrumentation and usage of rubber cup polishing.
- 2.I.04 Apply anticarcinogenic agents.
- 2.I.05 Prepare and assist for application with dental sealants.
- 2.I.06 Provide oral hygiene / health instruction.
- 2.I.07 Summarize dietary analysis for dental disease control.
- 2.I.08 Explain the use and purpose of intra oral photographs.

**Performance Example:**

1. Student will successfully perform given preventive procedures with dentist and client and will be evaluated by dentist and/or instructor.

**2.J Assist with oral surgery and/or periodontal surgery.**

- 2.J.01 Prepare armamentarium and manipulation of any dental materials for oral surgical procedures.
- 2.J.02 Illustrate common surgical procedures.
- 2.J.03 Assist with extractions.
- 2.J.04 Assist with implant procedures.

- 2.J.05 Assist with the placement and removal of sutures.
- 2.J.06 Remove sutures.
- 2.J.07 Assist with surgical periodontium procedures.

**Performance Example:**

1. Student will successfully perform given surgery procedures with dentist and client and will be evaluated by dentist and/or instructor.

**2.K Assist with orthodontic procedures.**

- 2.K.01 Prepare armamentarium and manipulation of any dental materials for orthodontic procedures.
- 2.K.02 Assist with orthodontic procedures as stated in the state Dental Practice Act.

**Performance Example:**

1. Student will successfully perform given orthodontic procedures with dentist and client and will be evaluated by dentist and/or instructor.

**2.L Assist with endodontics procedures.**

- 2.L.01 Prepare armamentarium and manipulation of any dental materials for endodontic procedures.
- 2.L.02 Assist with endodontic procedures as stated in the state Dental Practice Act.

**Performance Example:**

1. Student will successfully perform given endodontic procedures with dentist and client and will be evaluated by dentist and/or instructor.

**2.M Explain equipment and practices relating to radiography.**

- 2.M.01 Define commonly used terms relating to radiography.
- 2.M.02 State the characteristics of x-ray beams and ionizing radiation.
- 2.M.03 Identify the parts of an x-ray machine.
- 2.M.04 Demonstrate proper film placement and patient protection.
- 2.M.05 Explain darkroom procedures, including film mounting.
- 2.M.06 Summarize supplemental radiographic techniques and surveys.

**Mandatory Certifications for Students in a Dental Assisting Program**

CPR – American Heart Association, American Red Cross

Radiology Certification – Dental Assisting National Board

Infection Control Certification – Dental Assisting National Board



## **Strand 3: Embedded Academic Knowledge and Skills**

### **3.A English Language Arts**

| <b>VTE #</b> | <b>Acad #</b> | <b>Standard</b>   | <b>Grade</b> | <b>Topic</b> |
|--------------|---------------|---|--------------|--------------|
| 3.A.01c      | 19.21         | For informational/expository writing: Write reports based on research that includes quotations, footnotes or endnotes, and a bibliography.  | Pre-9th      | Composition  |
| 3.A.02c      | 24.4          | Apply steps for obtaining information from a variety of sources, organizing information, documenting sources, and presenting research in individual projects/   | Pre-9th      | Composition  |
| 3.A.03c      | 2.4           | Integrate relevant information gathered from group discussions and interviews for reports.  | Pre-9th      | Language     |
| 3.A.04c      | 13.19         | Identify and use knowledge of common graphic features (charts, maps, diagrams).   | Pre-9th      | Reading      |
| 3.A.05c      | 24.5          | Formulate open-ended research questions and apply steps for obtaining and evaluating information from a variety of sources, organizing information, documenting sources in a consistent and standard format, and presenting research. | 9/10         | Composition  |
| 3.A.06c      | 20.5          | Use different levels of formality, style, and tone when composing for different audiences.  | 9/10         | Composition  |
| 3.A.07c      | 2.5           | Summarize in a coherent and organized way information and ideas learned from a focused discussion.  | 9/10         | Language     |
| 3.A.08c      | 26.5          | Analyze visual or aural techniques used in a media message for a particular audience and evaluate their effectiveness.  | 9/10         | Media        |
| 3.A.09c      | 19.27         | For informational/expository writing: Write well-organized research papers that prove a thesis statement using logical organization, effective supporting evidence, and variety in sentence structure.                                | 11/12        | Composition  |
| 3.A.10c      | 22.1          | Use all conventions of standard English when writing and editing.   | 11/12        | Composition  |

|         |      |  |       |             |
|---------|------|--|-------|-------------|
| 3.A.11c | 24.6 | Formulate original, open-ended questions to explore a topic of interest, design and carry out research, and evaluate the quality of the research paper in terms of the adequacy of its questions, materials, approach, and documentation of sources. | 11/12 | Composition |
| 3.A.12c | 3.17 | Deliver formal presentations for particular audiences using clear enunciation and appropriate organization, gestures, tone, and vocabulary.  | 11/12 | Language    |
| 3.A.13c | 4.27 | Use general dictionaries, specialized dictionaries, thesauruses, histories of language, books of quotations, and other related references as needed.   | 11/12 | Language    |
| 3.A.14c |      | Follow correct procedures for technical documentation and journaling.  |       | Voc         |
| 3.A.15c |      | Read medical/technical manuals, guides, resource books and technical literature to gain information and solve problems.  |       | Voc         |
| 3.A.16c |      | Read, comprehend, and follow written medical/technical directions for procedures and processes.  |       | Voc         |
| 3.A.17c |      | Use medical terminology within a scope of practice in order to interpret, transcribe, and communicate information, data and observations.  |       | Voc         |

### **3.B Mathematics**

| <b>VTE #</b> | <b>Acad #</b> | <b>Standard</b>   | <b>Grade</b> | <b>Topic</b>                 |
|--------------|---------------|---|--------------|------------------------------|
| 3.B.01c      | 7.P.6         | Use linear equations to model and analyze problems involving proportional relationships. Use technology as appropriate.               | Pre-9th      | Patterns, relations, algebra |
| 3.B.02c      | 8.N.1         | Compare, order, estimate, and translate among integers, fractions and mixed numbers (i.e., rational numbers), decimals, and percents. | Pre-9th      | Numbers                      |
| 3.B.03c      | 8.M.2         | Given the formulas, convert from one system of measurement to another. Use technology as appropriate.                                 | Pre-9th      | Measurement                  |

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| 3.B.04c | 10.D.1 | Select, create, and interpret an appropriate graphical representation (e.g., scatterplot, table, stem-and-leaf plots, box-and-whisker plots, circle graph, line graph, and line plot) for a set of data and use appropriate statistics (e.g., mean, median, range, and mode) to communicate information about the data. Use these notions to compare different sets of data. | 9/10  | Data Analysis, Statistics and Probability |
| 3.B.05c | 10.P.8 | Solve everyday problems that can be modeled using systems of linear equations or inequalities. Apply algebraic and graphical methods to the solution. Use technology when appropriate. Include mixture, rate, and work problems.   | 9/10  | Patterns, relations, algebra              |
| 3.B.06c | 12.D.1 | Design surveys and apply random sampling techniques to avoid bias in the data collection.  | 11/12 | Data Analysis, Statistics                 |
| 3.B.07c | 12.D.2 | Select an appropriate graphical representation for a set of data and use appropriate statistics (e.g., quartile or percentile distribution) to communicate information about the data.   | 11/12 | Data Analysis, Statistics                 |
| 3.B.08c | 12.D.7 | Compare the results of simulations (e.g., random number tables, random functions, and area models) with predicted probabilities.   | 11/12 | Data Analysis, Statistics                 |

### 3.C Science and Engineering/Technology

| VTE #   | Acad # | Standard  | Grade | Topic   |
|---------|--------|---|-------|---------|
| 3.C.01c | 1.2    | Recognize the six most common elements in organic molecules (C, H, N, O, P, S).   |       | Biology |
| 3.C.02c | 1.5    | Explain the role of enzymes in biochemical reactions.   |       | Biology |
| 3.C.03c | 2.1    | Relate cell parts/organelles to their functions.  |       | Biology |
| 3.C.04c | 2.2    | Differentiate between prokaryotic cells and eukaryotic cells, in terms of their general structures and degrees of complexity.                                 |       | Biology |
| 3.C.05c | 2.4    | Describe how cells function in a narrow range of physical conditions, such as temperature and pH, to perform life functions that help to maintain homeostasis |       | Biology |
| 3.C.06c | 3.1    | Describe the structure and function of DNA, and distinguish among replication, transcription, and translation.  |       | Biology |

|         |     |  |  |           |
|---------|-----|--|--|-----------|
| 3.C.07c | 3.2 | Describe the processes of replication, transcription, and translation and how they relate to each other in molecular biology.  |  | Biology   |
| 3.C.08c | 4.1 | Explain how major organ systems in humans (e.g., kidney, muscle, lung) have functional units (e.g., nephron, sarcome, alveoli) with specific anatomy that perform the function of that organ system. |  | Biology   |
| 3.C.09c | 1.1 | Identify and explain some of the physical properties that are used to classify matter, e.g., density, melting point, and boiling point.  |  | Chemistry |
| 3.C.10c | 1.2 | Explain the difference between mixtures and pure substances.   |  | Chemistry |
| 3.C.11c | 1.3 | Describe the four states of matter (solid, liquid, gas, plasma) in terms of energy, particle motion, and phase transitions.  |  | Chemistry |
| 3.C.12c | 1.4 | Distinguish between chemical and physical changes.   |  | Chemistry |
| 3.C.13c | 4.7 | Name and write the chemical formulas for simple ionic and molecular compounds, including those that contain common polyatomic ions.  |  | Chemistry |
| 3.C.14c |     | Explain body planes, directional terms, quadrants and cavities.  |  | Voc       |
| 3.C.15c |     | Analyze the interdependence of the body systems as they relate to wellness, disease, disorders, therapies and care rehabilitation.   |  | Voc       |
| 3.C.16c |     | Compare specified diseases and disorders by classifications, causes, diagnoses, therapies, and care.   |  | Voc       |
| 3.C.17c |     | Analyze methods to control the spread of pathogenic micro-organisms.   |  | Voc       |
| 3.C.18c |     | Identify and contract various types of immunities.   |  | Voc       |
| 3.C.19c |     | Compare the aging process among the body systems.  |  | Voc       |

## **Strand 4: Employability Knowledge and Skills**

### **4.A Develop employability skills to secure and keep employment in chosen field.**

- 4.A.01a Evaluate industries, organizations, and careers based on multiple sources of research and information.
- 4.A.02a Assess interest areas to determine potential career pathways, including career ladders.
- 4.A.03a Develop a career plan with alternatives.
- 4.A.04a Complete job applications and related employment documents (e.g. W-4).
- 4.A.05a Create professional cover letters, resumes, and portfolios in a variety of formats (print and electronic) .
- 4.A.06a Apply job search skills to seek, evaluate, apply for, and accept employment.
- 4.A.07a Demonstrate good interviewing skills.
- 4.A.08a Demonstrate employability skills needed to get and keep a job.
- 4.A.09a Assess alternative occupational choices (e.g. working conditions, benefits, and opportunities to change).

#### **Performance Examples:**

1. Research positions open within a variety of companies and compare/contrast their descriptions, duties, and expectations.
2. Prepare responses to standard interview questions.
3. Participate in a mock-interview with industry professionals.

### **4.B Communicate in multiple modes to address needs within the career and technical field.**

- 4.B.01a Apply strategies to enhance effectiveness of all types of communications in the workplace.
- 4.B.02a Apply reading skills and strategies to work-related documents.
- 4.B.03a Locate information from books, journals, magazines, and the Internet.
- 4.B.04a Apply basic writing skills to work-related communication.
- 4.B.05a Write work-related materials.
- 4.B.06a Explain information presented graphically.
- 4.B.07a Use writing/publishing/presentation applications.
- 4.B.08a Apply basic skills for work-related oral communication.
- 4.B.09a Explain proper telephone etiquette and skills .
- 4.B.10a Lead formal and informal group discussions.
- 4.B.11a Demonstrate effective negotiation and conflict management.
- 4.B.12a Apply active listening skills to obtain and clarify information.
- 4.B.13a Communicate with others in a diverse workforce.

#### **Performance Examples:**

1. Review a professional journal; choose one article to summarize.
2. Call the publisher for free products in journal.
3. Develop an oral presentation regarding an article in a journal.
4. Summarize trends presented in a graph.

**4.C Solve problems using critical thinking.**

- 4.C.01a Demonstrate skills used to define and analyze a given problem.
- 4.C.02a Explain the importance and dynamics of individual and teamwork approaches of problem solving.
- 4.C.03a Describe methods of researching and validating reliable information relevant to the problem.
- 4.C.04a Explain strategies used to formulate ideas, proposals and solutions to problems.
- 4.C.05a Select potential solutions based on reasoned criteria.
- 4.C.06a Implement and evaluate solution(s).

**4.D Demonstrate positive work behaviors.**

- 4.D.01a Identify time management and task prioritization skills.
- 4.D.02a Explain the importance of following workplace etiquette/protocol.
- 4.D.03a Demonstrate willingness to learn and further develop skills.
- 4.D.04a Demonstrate self-management skills.
- 4.D.05a List causes of stress and effective stress management techniques.
- 4.D.06a Describe the importance of having a positive attitude and techniques that boost morale.
- 4.D.07a Show initiative by coming up with unique solutions and taking on extra responsibilities.
- 4.D.08a Explain the importance of setting goals and demonstrate the ability to set, reach, and evaluate goals.
- 4.D.09a Explain the importance of taking pride in work accomplished and extrinsic and intrinsic motivators that can be used to increase pride.
- 4.D.10a Value the importance of professionalism, including reliability, honesty, responsibility, and ethics.
- 4.D.11a Demonstrate a respect for diversity and its benefit to the workplace.

## **Strand 5: Management and Entrepreneurship Knowledge and Skills**

### **5.A Analyze basic business practices required to start and run a company/organization.**

- 5.A.01a Define entrepreneurship.
- 5.A.02a Describe the relationship between suppliers, producers, and consumers.
- 5.A.03a Compare and contrast types of businesses, including sole proprietorships, small businesses, companies, corporations, governmental agencies, and non-profit organizations.
- 5.A.04a Describe practices that ensure quality customer service.
- 5.A.05a Explain the value of competition in business/field.
- 5.A.06 Explain concepts of insurance management.
- 5.A.07 Explain inventory management.

#### **Performance Examples:**

1. Prepare a business plan for a new company in your community.
2. Participate in a discussion with members of a local small-business incubator or chamber of commerce, identifying opportunities and summarizing best practices of new companies.
3. Create an equipment list, with costs, of equipment required for doing specific tasks.
4. Identify local zoning and environmental laws that apply to businesses in your industry.

### **5.B Manage all resources related to a business/organization.**

- 5.B.01a Identify a company's/organization's chain of command and organizational structure.
- 5.B.02a Define and demonstrate leadership and teamwork skills.
- 5.B.03a Explain ways a company or organization can market itself, including choosing a name, designing logos and promotional materials, advertising, and the importance of word-of-mouth.
- 5.B.04a Identify methods to track inventory, productivity, income, expenses, and personnel.
- 5.B.05a Explain the importance of written operating procedures and policies.
- 5.B.06a Identify professional organizations and their benefits.
- 5.B.07a Explain methods to effectively run a meeting.

#### **Performance Examples:**

1. Create a plan to keep track of tools and supplies in your classroom/shop.
2. Work as a team to complete a project, including running and participating in problem-solving meetings.
3. Contact a relevant professional organization and request information about its benefits, membership requirements, and costs.
4. Clip print advertisements from local companies, identifying common themes and contrasting different styles.

### **5.C Describe methods for managing, organizing, retrieving and reporting financial data.**

- 5.C.01a Explain the role of small businesses in the economy.

- 5.C.02a Extract and extrapolate data from financial documents, such as a pay-stub, budget, tax statement, and financial report.

**Performance Examples:**

1. Create and follow a budget for an in-class project.
2. Identify equipment in your shop/lab that are considered as capital.
3. From a pay-stub, determine gross salary, deductions, and net pay for a calendar year.
4. Create a rate card or other list of standardized costs for services provided, based on research of local rates and practices.

**5.D Apply labor and civil rights law and guidelines to business practice and decisions.**

- 5.D.01a List federal and state mandated employee rights.
- 5.D.02a Describe proper working conditions for your industry.
- 5.D.03a Explain the role of labor organizations.
- 5.D.04a Discuss the importance of diversity and list methods of encouraging diversity in the workplace.
- 5.D.05a Describe standard forms of employment contracts applicable to your industry.
- 5.D.06a State the current minimum wage, as well as wages for common jobs found within the field.
- 5.D.07a List opportunities for continual professional development.

**Performance Examples:**

1. Participate in and summarize a discussion with a member of a labor organization.
2. Participate in and summarize a discussion with a member of a civil rights organization.
3. While participating in a group project, write and follow job descriptions for each member of the team.
4. Evaluate a shop/lab in terms of safety, ergonomics, and workflow.

**5.E Evaluate the effects of community relations on companies and the industry.**

- 5.E.01a Describe the role that the industry/organization plays in different communities.
- 5.E.02a Describe the role that community interests play in a company's/organization's decision-making process.

**Performance Example:**

1. Participate in a service project or community-centered event.

**5.F Apply legal requirements and ethical considerations to business practice and decisions.**

- 5.F.01a Identify laws that regulate businesses/organizations in your field.
- 5.F.02a Define the requirements for and protections given by copyright and trademark law.
- 5.F.03a Define the impact of the Americans with Disabilities Act and other civil rights legislation on your business/organization, employees, and customers.
- 5.F.04a Define ethical business practices for your field.



- 5.F.05a Identify trade-specific practices that support clean energy technologies and encourage environmental sustainability.
- 5.F.06c Demonstrate the use of problem-solving techniques when confronted with legal dilemmas or issues.
- 5.F.07c Compare and contrast behaviors and practices that could result in malpractice, liability or negligence.
- 5.F.08c Explain ways to comply with policies and requirements for documentation and record keeping.
- 5.F.09c Explain ways to comply with established risk management criteria and procedures.
- 5.F.10c Explain ways to comply with all established criteria for reportable incidents.
- 5.F.11c Explain ways to comply with non-discriminatory laws.
- 5.F.12c Perform duties according to regulations, policies, laws, and legislated rights of clients.
- 5.F.13c Explain ways to maintain clients rights according to the Patients' Bill of Rights.
- 5.F.14c Discuss the importance of practicing within licensure, certification, registration, and legislated scope of practice.
- 5.F.15c Apply the doctrine of informed consent.
- 5.F.16c Evaluate technological threats to confidentiality.
- 5.F.17c Apply mandated standards for harassment, labor, and employment laws.
- 5.F.18c Differentiate between morality and ethics and the relationship of each to health care outcomes.
- 5.F.19c Differentiate between ethical and legal issues impacting health care.
- 5.F.20c Contrast personal, professional and organizational issues impacting health care.
- 5.F.21c Contrast personal, professional and organizational ethics.
- 5.F.22c Analyze legal and ethical aspects of confidentiality.
- 5.F.23c Explain ways to maintain confidentiality.
- 5.F.24c Discuss bio-ethical issues related to health care.
- 5.F.25c Analyze and evaluate the implications of medical ethics.
- 5.F.26c Respect the interdisciplinary roles of team members.
- 5.F.27c Explain procedures used to report activities and behaviors by self and others that adversely affect the health, safety, or welfare of students, clients, or co-workers.
- 5.F.28c Demonstrate fairness and equal treatment of all persons.
- 5.F.29c Discuss the impact of religions and cultures on those giving and receiving health care with an understanding of past and present events.
- 5.F.30c Demonstrate respect of individual cultural, social, and ethnic diversity within the health care community.
- 5.F.31c Demonstrate procedures used to report findings of abuse.
- 5.F.32c Summarize procedures used to report abnormal client findings.
- 5.F.33c Explain Corporate Compliance.

**Performance Examples:**

1. Research the ethical guidelines set forth by a professional organization related to your industry and participate in a debate over how to apply these guidelines to a variety of situations.
2. Create a portfolio of a variety of completed contracts and their uses.
3. Participate in and summarize a discussion with a lawyer, consumer advocate, or other legal professional.
4. Create a quick reference outline listing legal topics and related resources.

## **Strand 6: Technological Knowledge and Skills**

### **6.A Demonstrate proficiency in the use of computers and applications as well as an understanding of concepts underlying hardware, software, and connectivity.**

- 6.A.01a Select and utilize the appropriate technology to solve a problem or complete a task.
- 6.A.02a Demonstrate file management skills (e.g., install new software, compress and expand files as needed, download files as appropriate).
- 6.A.03a Differentiate between different operating systems and demonstrate use of at least one to open and switch between programs and files.
- 6.A.04a Identify and demonstrate resolutions to simple hardware and software problems as they occur (e.g., frozen screen, disk error, printing problems).
- 6.A.05a Save, retrieve, load, format, and import data into, and export a variety of electronic documents (word processing, spreadsheet, database, AND desktop publishing).
- 6.A.06a Demonstrate the proper use of a variety of external peripherals and how they connect to a computer.
- 6.A.07a Illustrate methods of selecting and using search engines.
- 6.A.08a Send, receive, and manage electronic correspondence and files, in accordance with school policy.
- 6.A.09a Demonstrate proper use of electronic proofreading tools and explain reasons why these shouldn't be relied upon solely.

#### **Performance Example:**

1. In the development of work-based projects, students demonstrate computer skills inherent in the word processing techniques used, the organization of data, use of photographic representation, research projects, and other relevant project based activities.

### **6.B Demonstrate responsible use of technology and an understanding of ethics and safety issues in using electronic media.**

- 6.B.01a Identify ways in which technology is used in the workplace and in society.
- 6.B.02a Summarize the rights and responsibilities of the school's Acceptable Use Policy.
- 6.B.03a Explain laws restricting use of copyrighted materials on the Internet.
- 6.B.04a Discuss the concerns about electronic communications, privacy and security, including protection from spyware and viruses.

#### **Performance Example:**

1. Describe how computers are used to increase efficiency, accuracy, and professionalism in the industry.

### **6.C Demonstrate ability to use technology for research, problem solving, and communication.**

- 6.C.01a Locate, evaluate, collect, and process information from a variety of electronic sources.
- 6.C.02a Demonstrate the use of telecommunications and other media to interact or collaborate with peers, experts, and other audiences.

- 6.C.03a Demonstrate the use of appropriate electronic sources to conduct research (e.g., Web sites, online periodical databases, and online catalogs).
- 6.C.04a Demonstrate proper style (with correct citations) when integrating electronic research results into a research project.
- 6.C.05a Collect, organize, analyze, and graphically present data using the most appropriate tools.
- 6.C.06a Present information, ideas, and results of work using any of a variety of communications technologies (e.g., multimedia presentations, Web pages, videotapes, desktop-published documents).
- 6.C.07a Identify capabilities of technology resources and describe how they can be used for lifelong learning.
- 6.C.08a Demonstrate the proper use of electronic tools and office communications equipment (telephone, fax, copier, etc).

**Performance Example:**

1. Student is able to effectively use various technologies in the work place.